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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,633	03/16/2004	Robert G. Moores JR.	0275D-214COC	2966
27572	7590	03/13/2006	EXAMINER	
HARNESSE, DICKEY & PIERCE, P.L.C.			KALAFUT, STEPHEN J	
P.O. BOX 828			ART UNIT	
BLOOMFIELD HILLS, MI 48303			PAPER NUMBER	

1745

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/801,633

Applicant(s)

MOORES ET AL.

Examiner

Stephen J. Kalafut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 59-84 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 59-84 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>16 March 2004</u> . | 6) <input type="checkbox"/> Other: ____. |

Claims 59-69 and 78-84 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims recite a cordless power tool including a mechanism for coupling with a battery pack, and then recite characteristics of the battery pack. The claims are unclear as to whether the battery has to be present, in order for them to be met. The term “for coupling with” would imply that the pack need not be present. However, in order for the recited “mechanism for dissipating heat from said battery pack” to be present, so must the battery pack itself. Claims 81 and 83 differ only in the word “for” between “sinking heat” and “dissipating”. Thus, there does not appear to be any difference between these two claims. There is no antecedent for “the removable battery” in claim 84, line 2. If the intended antecedent is the “removable battery pack”, in line 1 of this claim, then claim 84 would be identical to claim 83.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 59-63, 65-69 and 78-80 are rejected under 35 U.S.C. 102(b) as being anticipated by either Bunyea (US 4,871,629) or Ramstrom *et al.* (US 3,999,110).

Bunyea discloses a cordless power tool (20) that includes a housing (22) that in turn includes a mechanism (54) for coupling to a battery pack (36). Since the tool, housing and

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coupling mechanism are they only components required to be present if these claims are read as not requiring the pack to be present, they would thus be fully met by Bunyea.

Ramstrom *et al.* disclose a cordless power tool (12) that includes a housing that in turn includes a mechanism (24) for coupling to a battery pack (10). Since the tool, housing and coupling mechanism are they only components required to be present if these claims are read as not requiring the pack to be present, they would thus be fully met by Ramstrom *et al.*

Claims 80-84 are rejected under 35 U.S.C. 102(b) as being anticipate by Mita (US 5,456,994), cited by applicants.

Mita discloses a battery pack (1) including a housing (2) for a plurality of cells (31) therein, and a spacer (35), an air inlet (4), an air outlet (6), and a fan (5), which would form a mechanism for sinking and dissipating heat generated by the cells. The spacer, being in contact with at least one of the cells, would constitute the heat sink of claim 82. The recitation "having a mechanism for coupling and decoupling" pertains to the cordless tool the battery pack is used with, and is thus not a characteristic of the pack itself, and is thus not given weight. Thus, to the extent that these claims are understood, they would be anticipated by Mita.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 59-63, 65-73 and 75-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulz *et al.* (US 5,480,734) in view of Bunyea (US 4,871,629) and Mita (US 5,456,994).

For this rejection, the claims are interpreted as if all the recited parts are required to be present. Schulz *et al.* discloses a cordless power tool (1) that includes a housing portion (6) that is coupled to a battery pack (7). The battery pack may include ventilation slits that help to cool the battery pack (column 2, lines 62-67). The pack may also include a temperature sensor (10). Schulz *et al.* do not disclose any mechanism for coupling the battery pack to the power tool housing, nor any particular ventilation or heat exchanging structure for the battery pack. Bunyea discloses a cordless power tool (20) that includes a housing (22) that includes a mechanism (54) for coupling to a battery pack (36). Because the mechanism of Bunyea provides a simple yet effective latching operation (column 1, lines 25-26), it would be obvious to use the latching mechanism of Bunyea to couple the power tool housing and battery pack of Schulz *et al.* Mita discloses a system for cooling batteries including a fan (5), an inlet (4), an outlet (6), air coolant flow passages (8, 11), partition walls (7) with ridges (9) that direct air coolant flow, and spacers (35), which transfer heat between the cells and the coolant (column 3, lines 32-40). These spacers would thus act as heat sinks and mechanisms for dissipating the heat generated by the cells within the battery pack housing, and would also conduct heat from warmer cells to cooler ones. Because these components help to efficiently control the temperature of each cell (column 1, lines 64-66) and help to prevent deformation of the cells (column 3, lines 34-40), it would be obvious to use the temperature control components of Mita in the battery pack of Schulz *et al.*

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Claims 64 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schulz *et al.* in view of Bunyea and Mita as applied to claims 59 and 70 above, and further in view of Miller (US 5,343,368).

The above combination does not disclose a heat pump used to provide heating and cooling of the battery cells. Miller discloses a battery (17) that is heated and cooled by heat pumps (51, 53). Because this arrangement would allow both heating and cooling, which is also desired by Mita (column 3, lines 38-39), it would be obvious to use a heat pump in the battery temperature control device of Mita, used in the battery pack of Schulz *et al.*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 59-69 and 78-80 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,455,186. Although

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the conflicting claims are not identical, they are not patentably distinct from each other because present claim 59 differs from patented claim 1 by reciting an inlet and outlet for the ventilating fluid, which would be obvious over the recitation in patented claim 1 of a vent system hat enables the fluid to go through the battery pack. The various details of present claims 60-69 appear in patented claims 2-20, these details including the fluid directors, the heat sink, the fan, the heat pump, the dissipater and the temperature sensor. Claim 78 recites a mechanism for sinking heat that also dissipates heat, which is also recited in patented claim 3. The wicking of heat from hotter cells to ambient is recited in patented claim 13.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bae (US 5,567,542) disclose a battery array that includes heat sink members (18). Yamane *et al.* (US 6,335,116) disclose a battery-cooling device with a turbulence accelerator.

The disclosure is objected to because of the following informalities: There is no numeral 62 in figure 3, as stated on page 9, line 24 of the specification. There is no numeral 78 in figure 3, as stated on page 10. Instead, the numeral 76 appears twice in figure 3. There is no numeral 83 in figure 4a, as stated on page 10, line 23. The numeral 206 appears to indicate two different components in figure 12. Appropriate correction is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Kalafut whose telephone number is 571-272-1286. The examiner can normally be reached on Mon-Fri 8:00 am-4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sjk

A handwritten signature in black ink, appearing to be 'Z. Ryan'.

STEPHEN KACIAT
PATENT EXAMINER
GROUP 1700